L Numbe		Search Text	DB	Time stamp
-	79	laser with gyroscop\$9 with (ring or round or circular\$4 or circle or	USPAT;	2004/05/05 13:04
		toroid\$9) and (borehole or (bore adj3 hole) or bottomhole or (bottom adj3	US-PGPUB	
	53	hole) or drill drilling survey surveying)		
•	. 33	gyroscop\$9 with fluid with flow\$4	USPAT;	2004/05/05 13:04
	10	(	US-PGPUB	
-	49	(gyroscop\$9 with fluid) and (borehole or (bore adj3 hole) or bottomhole or	USPAT;	2004/05/05 13:04
		(bottom adj3 hole) or drill drilling survey surveying)	US-PGPUB	
	9	gyroscop\$9 with fluid with passage\$6	USPAT;	2004/05/05 13:04
			US-PGPUB	
•	161	(borehole or (bottom with hole)) and gyroscop\$9 same accelerometer and	USPAT;	2004/05/05 13:04
		(drill drilling survey surveying)	US-PGPUB	
	59	((optic\$9 or fiber\$9 or fiberoptic\$9 or fiber\$1optic) same gyroscop\$9	USPAT;	2004/05/05 13:04
		same (ring or circular\$4 or circle or toroid\$9)) and (drill drilling survey	US-PGPUB	
		surveying)		
	74	(((("6021577") or ("5787997") or ("5452518") or ("5435069") or	USPAT;	2004/05/05 13:04
		("5294972") or ("5155916") or ("5012412") or ("4812977") or	US-PGPUB	
		("4712306") or ("4682421") or ("4594790") or ("4542647") or		
		("4450406") or ("4371838") or ("4361192") or ("4163324")).PN.) 33/302		
	-	33/304 33/308 33/310 33/312 33/313 33/324 33/624,625.ccls.		
		((175/45).CCLS.)) and gyroscop\$9 same (normal perpendicular\$4 right		
		orthogonal\$4) with (spin\$5 or rotat\$7) with axis		
<b>-</b> '	20	(((("6021577") or ("5787997") or ("5452518") or ("5435069") or	USPAT;	2004/05/05 13:04
		("5294972") or ("5155916") or ("5012412") or ("4812977") or	US-PGPUB	
	<u> </u>	("4712306") or ("4682421") or ("4594790") or ("4542647") or		
•		("4450406") or ("4371838") or ("4361192") or ("4163324")).PN.) 33/302		i.
		33/304 33/308 33/310 33/312 33/313 33/324 33/624,625.ccls.		* •
	·	((175/45).CCLS.)) and gyroscop\$9 same (tool or instrument or equipment		
		or housing) with (normal perpendicular\$4 right orthogonal\$4) with (spin\$5		
		or rotat\$7) with axis		
	-15	(((("6021577") or ("5787997") or ("5452518") or ("5435069") or	USPAT;	2004/05/05 13:04
		("5294972") or ("5155916") or ("5012412") or ("4812977") or	US-PGPUB	2004/05/05 15:0-
		("4712306") or ("4682421") or ("4594790") or ("4542647") or	05-1 GI 0D	
		("4450406") or ("4371838") or ("4361192") or ("4163324")).PN.) 33/302		
		33/304 33/308 33/310 33/312 33/313 33/324 33/624,625.ccls.		
		((175/45).CCLS.)) and (mwd or (measur\$9 adj while adj drilling)) and	* 2	
	ŀ	gyroscop\$9 same (normal perpendicular\$4 right orthogonal\$4) same		
		(spin\$6 or rotat\$6)		
	60	(((("6021577") or ("5787997") or ("5452518") or ("5435069") or	USPAT;	2004/05/05 12:0
		("5294972") or ("5155916") or ("5012412") or ("4812977") or	US-PGPUB	2004/05/05 13:04
		("4712306") or ("4682421") or ("4594790") or ("4542647") or	US-PUPUB	
		("4450406") or ("4371838") or ("4361192") or ("4163324")).PN.) 33/302		
		33/304 33/308 33/310 33/312 33/313 33/324 33/624,625.ccls.		
•		((175/45).CCLS.)) and (mwd or (measur\$9 adi3 drilling) or		
	1			
	1.5	measur\$drilling) and gyroscop\$9	I IOD A D	
	15	(((("6021577") or ("5787997") or ("5452518") or ("5435069") or	USPAT;	2004/05/05 13:04
		("5294972") or ("5155916") or ("5012412") or ("4812977") or	US-PGPUB	
	1	("4712306") or ("4682421") or ("4594790") or ("4542647") or		
	<u> </u>	("4450406") or ("4371838") or ("4361192") or ("4163324")).PN.) 33/302	. •	,
		33/304 33/308 33/310 33/312 33/313 33/324 33/624,625.ccls.		
	1 1	((175/45).CCLS.)) and (mwd or (measur\$9 adj3 drilling) or		•
	-	measur\$drilling) and gyroscop\$9 same (normal perpendicular\$4 right	e - ·	•
		orthogonal\$4) with (spin\$5 or rotat\$7) with axis		
	136	(((("6021577") or ("5787997") or ("5452518") or ("5435069") or	USPAT;	2004/05/05 13:04
	†	("5294972") or ("5155916") or ("5012412") or ("4812977") or	US-PGPUB	
		("4712306") or ("4682421") or ("4594790") or ("4542647") or		
		("4450406") or ("4371838") or ("4361192") or ("4163324")).PN.) 33/302		
	+ 1	33/304 33/308 33/310 33/312 33/313 33/324 33/624,625.ccls.		
		((175/45).CCLS.)) and gyroscop\$9 and (tool or instrument or equipment or		
		housing or case or casing or shell) with (spin\$5 or rotat\$7) with axis		

		·		•
-	32	1 ( 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	USPAT	2004/05/05 13:04
*		"4472884"   "4542647"   "4559713"   "4594790"   "4611405"   "4682421"		
İ	].	"4706388"   "4709486"   "4761889"   "4819336"   "4833787"   "4894923"		•
		"4909336"   "4920655"   "4956921"   "4999920"   "5155916"   "5321893"		
		"5432699"   "5435069"   "5452518"   "5564193"   "5623407"   "5657547"		
	İ	"5679894"   "5806194").PN.	-	
	26	(((("6021577") or ("5787997") or ("5452518") or ("5435069") or	USPAT;	2004/05/05 13:56
		("5294972") or ("5155916") or ("5012412") or ("4812977") or	US-PGPUB	2001103103 13.30
		("4712306") or ("4682421") or ("4594790") or ("4542647") or	00.00	
		("4450406") or ("4371838") or ("4361192") or ("4163324")).PN.) 33/302	1	
		33/304 33/308 33/310 33/312 33/313 33/324 33/624,625.ccls.		
		((175/45).CCLS.)) and (tool or instrument or equipment or housing or case		•
		or casing or shell) with (spin\$5 or rotat\$7) with axis and (gyroscop\$9 same		
	ĺ	(tool or instrument or equipment or housing or case or casing or shell) with	Ì	
		(normal perpendicular\$4 right orthogonal\$4) with (spin\$5 or rotat\$7))		
-	15	(((("6021577") or ("5787997") or ("5452518") or ("5435069") or	USPAT;	2004/05/05 13:04
	İ	("5294972") or ("5155916") or ("5012412") or ("4812977") or	US-PGPUB	200 11 03/03 15:04
· ·		("4712306") or ("4682421") or ("4594790") or ("4542647") or	00.000	
	į.	("4450406") or ("4371838") or ("4361192") or ("4163324")).PN.) 33/302		
		33/304 33/308 33/310 33/312 33/313 33/324 33/624,625.ccls.		
		((175/45).CCLS.)) and (mwd or (measur\$9 adj3 drilling) or		
		measur\$drilling) and (gyroscop\$9 with (normal perpendicular\$4 right		
		orthogonal\$4) with (spin\$5 or rotat\$7))		
	21	(mwd or (measur\$9 adj3 drilling) or measur\$drilling) and (gyroscop\$9	USPAT;	2004/05/05 13:04
		with (normal perpendicular\$4 right orthogonal\$4) with (spin\$5 or rotat\$7))	US-PGPUB	2001/05/05 15:04
-	34	(((("6021577") or ("5787997") or ("5452518") or ("5435069") or	USPAT;	2004/05/05 13:04
		("5294972") or ("5155916") or ("5012412") or ("4812977") or	US-PGPUB	2004/05/05 15:04
ŀ		("4712306") or ("4682421") or ("4594790") or ("4542647") or	OS-1 GI OB	
		("4450406") or ("4371838") or ("4361192") or ("4163324")).PN.) 33/302		
		33/304 33/308 33/310 33/312 33/313 33/324 33/624,625.ccls.		
		((175/45).CCLS.)) and (earth with rotation) and ((local or frame) with		
:		orient\$7)		
-	6		USPAT;	2004/05/05 13:06
		("5294972") or ("5155916") or ("5012412") or ("4812977") or	US-PGPUB	200 1103103 13.00
Ì		("4712306") or ("4682421") or ("4594790") or ("4542647") or		
		("4450406") or ("4371838") or ("4361192") or ("4163324")).PN.) 33/302		
,	-	33/304 33/308 33/310 33/312 33/313 33/324 33/624,625.ccls.		
,		((175/45).CCLS.)) and gyroscop\$7 and gyroscop\$7 same rotat\$9 same		
		pitch same axis and azimuth and accelero\$9 same pitch		
ľ <b>-</b>	· 22	l •	USPAT:	2004/05/05 13:07
		with (bore aperture opening hole)	US-PGPUB	
-	6	(optic\$9 or fiber\$9 or fiberoptic\$9 or fiber\$1 optic) with gyroscop\$9 with	USPAT;	2004/05/05 13:07
		(ring or toroid\$9) same (center or central\$4) with (bore aperture opening	US-PGPUB	
	[	hole)		
<u> -</u>	9	(optic\$9 or fiber\$9 or fiberoptic\$9 or fiber\$1optic or laser) with	USPAT;	2004/05/05 13:07
		gyroscop\$9 with (ring or toroid\$9) same fluid	US-PGPUB	
-	3	gyroscop\$9 with (center or central\$4) with (bore aperture opening hole	USPAT;	2004/05/05 13:07
		passage passageway) with fluid	US-PGPUB	
<b>-</b> .	25	((fiber\$9 or fiberoptic\$9 or fiber\$1optic) same gyroscop\$9 same (ring or	USPAT;	2004/05/05 13:07
		circular\$4 or circle or toroid\$9)) and (drill drilling survey surveying)	US-PGPUB	
-	74	(borehole or (bottom with hole)) and gyroscop\$9 same accelerometer and	USPAT;	2004/05/05 13:07
		(drill drilling survey surveying) and velocity	US-PGPUB	
•	19	(borehole or (bottom with hole)) and gyroscop\$9 same accelerometer and	USPAT;	2004/05/05 13:07
		(drill drilling survey surveying) and velocity and kalman	US-PGPUB	
-	. 19	gyroscope same accelerometer and angular\$6 same rotat\$7 same	USPAT;	2004/05/05 13:07
		accelera\$7 same (coordinate adj2 system)	US-PGPUB	
-	75	((fiber\$9 adj optic\$9) or fiberoptic\$9 or fiber\$1 optic) same gyroscop\$9	USPAT;	2004/05/05 13:07
,	]	same advantages	US-PGPUB	
-	269	(two or (first and second)) same gyroscop\$9 and accelerometer same	USPAT;	2004/05/05 13:07
		(vertical\$5 or plumb or gravity or gravitational)	US-PGPUB	
	<u> </u>			